

**SECTION 32 92 00  
TURF AND GRASSES**

**PART 1      GENERAL**

**1.01      DEFINITIONS**

- A.    Maintenance Period: Begin maintenance immediately after each area is planted (seed, sod, or sprig) and continue for a period of 12 weeks after all planting under this section is completed.
- B.    Satisfactory Stand: Grass or section of grass of 2,000 square feet or larger that has:
  - 1.    No bare spots larger than 3 square feet.
  - 2.    Not more than 10 percent of total area with bare spots larger than 1 square foot.
  - 3.    Not more than 15 percent of total area with bare spots larger than 6 square inches.

**1.02      SUBMITTALS**

- A.    Action Submittals: Product labels/data sheets.
- B.    Informational Submittals:
  - 1.    Seed: Certification of seed analysis, germination rate, and inoculation:
    - a.    Certify that each lot of seed has been tested by a testing laboratory certified in seed testing, within 6 months of date of delivery.  
Include with certification:
      - 1)    Name and address of laboratory.
      - 2)    Date of test.
      - 3)    Lot number for each seed specified.
      - 4)    Test Results: (i) name, (ii) percentages of purity and of germination, and (iii) weed content for each kind of seed furnished.
    - b.    Mixtures: Proportions of each kind of seed.
  - 2.    Seed Inoculant Certification: Bacteria prepared specifically for legume species to be inoculated.
  - 3.    Description of required maintenance activities and activity frequency.
  - 4.    Planting Schedule indicating anticipated planting dates and maintenance schedule.

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1.03 DELIVERY, STORAGE, AND PROTECTION

A. Seed:

1. Furnish in standard containers with seed name, lot number, net weight, percentages of purity, germination, and hard seed and maximum weed seed content, clearly marked for each container of seed.
2. Keep dry during storage.

B. Hydroseeding Mulch: Mark package of wood fiber mulch to show air dry weight.

1.04 WEATHER RESTRICTIONS

A. Perform Work under favorable weather and soil moisture conditions as determined by accepted local practice.

1.05 SEQUENCING AND SCHEDULING

A. Complete other earth disturbing work before starting Work of this section.

B. Complete Work under this section within 10 days following completion of soil preparation.

C. Notify Contracting Officer at least 3 days in advance of:

1. Each material delivery.
2. Start of planting activity.

D. Planting Season: March 15 and September 15.

1.06 MAINTENANCE SERVICE

A. Contractor: Perform maintenance operations during maintenance period to include:

1. Watering: Keep surface moist.
2. Washouts: Repair by filling with topsoil, liming, fertilizing, seeding, and mulching.
3. Mulch: Replace wherever and whenever washed or blown away.
4. Mowing: Mow to 2 inches after grass height reaches 3 inches, and mow to maintain grass height from exceeding 3-1/2 inches.
5. Fences: Repair and maintain until satisfactory stand of grass is established.

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6. Reseed unsatisfactory areas or portions thereof immediately at the end of the maintenance period if a satisfactory stand has not been produced.
7. Reseed/replant during next planting season if scheduled end of maintenance period falls after September 15.
8. Reseed/replant entire area if satisfactory stand does not develop by July 1 of the following year.

**PART 2      PRODUCTS**

**2.01      FERTILIZER**

- A. Commercial, uniform in composition, free-flowing, suitable for application with equipment designed for that purpose. Minimum percentage of plant food by weight.
- B. Application Rates: Determined by soil analysis as follows:
  1. 30 lb/ac N, 0 lb/ac P, 80 lb/ac K<sub>2</sub>O, 17 lb/acMgO.
- C. Mix:
  1. Nitrogen
  2. Phosphoric Acid
  3. Potash (As K<sub>2</sub>SO<sub>4</sub>).

**2.02      SEED**

- A. Fresh, clean new-crop seed that complies with the tolerance for purity and germination established by Official Seed Analysts of North America.
- B. Seeds of Legumes: Inoculated with pure culture of nitrogen-fixing bacteria prepared specifically for legume species in accordance with inoculant manufacturer's instructions.
- C. Summer Seed Mix:

<b>Proportion</b>	<b>Name</b>	<b>Min. % Germ.</b>	<b>Min. % Pure Sd.</b>	<b>Max. % Weed Sd.</b>
30 percent	Creeping Red Fescue (Festuca rubra variety)	85	98	0.50
30 percent	Chewings Red Fescue (Festuca rubra variety)	85	98	0.50

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Proportion	Name	Min. % Germ.	Min. % Pure Sd.	Max. % Weed Sd.
15 percent	Kentucky Bluegrass (Poa pratensis)	80	85	1.00
25 percent	Perennial Rye Grass (Lolium perenne)	90	98	0.50

D. Winter Protective Seed: Winter barley.

E. Bioretention Areas: See Section 32 93 00, Bioretention Area Plants.

### 2.03 STRAW MULCH

A. Threshed straw of oats, wheat, barley, or rye, free from (i) seed of noxious weeds or (ii) clean salt hay.

### 2.04 HYDROSEEDING MULCH

A. Wood Cellulose Fiber Mulch:

1. Specially processed wood fiber containing no growth or germination inhibiting factors.
2. Dyed a suitable color to facilitate inspection of material placement.
3. Manufactured such that after addition and agitation in slurry tanks with water, the material fibers will become uniformly suspended to form homogenous slurry.
4. When hydraulically sprayed on ground, material will allow absorption and percolation of moisture.

### 2.05 EROSION MAT

A. Jute: Heavy-duty, twisted, weighing 1 pounds per square yard.

1. Openings Between Strands: Approximately 1 inch square.

B. Plastic:

1. Extruded Polypropylene: 20 mils.
2. Opening Between Strands: 1 inch by 2 inch.

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C. Matting: Excelsior mat or straw blanket; staples as recommended by matting manufacturer.

1. Manufacturers and Products:
  - a. North American Green, Evansville, IN; SC150BN blanket.
  - b. Approved equal.

2.06 TACKIFIER

- A. Derived from natural organic plant sources containing no growth or germination-inhibiting materials.
1. Capable of hydrating in water, and to readily blend with other slurry materials.
  2. Wood Cellulose Fiber: Add as tracer, at rate of 150 pounds per acre.
  3. Manufacturers and Products:
    - a. Chevron Asphalt Co.; CSS 1.
    - b. Terra; Tack AR.
    - c. J Tack; Reclamare.

**PART 3 EXECUTION**

3.01 PREPARATION

- A. Grade areas to smooth, even surface with loose, uniformly fine texture.
1. Roll and rake, remove ridges, fill depressions to meet finish grades.
  2. Limit such Work to areas to be planted within immediate future.
  3. Remove debris, and stones larger than 1-1/2-inch diameter, and other objects that may interfere with planting and maintenance operations.
- B. Moisten prepared areas before planting if soil is dry. Water thoroughly and allow surface to dry off before seeding. Do not create muddy soil.
- C. Restore prepared areas to specified condition if eroded or otherwise disturbed after preparation and before planting.

3.02 FERTILIZER

- A. Apply evenly over area in accordance with manufacturer's instructions. Mix into top 2 inches of topsoil.
- B. Application Rate: Determined by soil test results in accordance with Section 32 91 13, Soil Preparation.

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3.03 SEEDING

- A. Start within 2 days of preparation completion.
- B. Hydroseed slopes steeper than 4H:1V. Flatter slopes may be mechanically seeded.
- C. Mechanical: Broadcast seed in two different directions, compact seeded area with cultipactor or roller.
  - 1. Sow seed at uniform rate of 1.25 pounds per 1,000 square feet.
  - 2. Use Brillion type seeder.
  - 3. Broadcasting will be allowed only in areas too small to use Brillion type seeder. Where seed is broadcast, increase seeding rate 20 percent.
  - 4. Roll with ring roller to cover seed, and water with fine spray.
- D. Hydroseeding:
  - 1. Application Rate: 2.5 pounds per 1,000 square feet.
  - 2. Apply on moist soil, only after free surface water has drained away.
  - 3. Prevent drift and displacement of mixture into other areas.
  - 4. Upon application, allow absorption and percolation of moisture into ground.
  - 5. Mixtures: Seed and fertilizer may be mixed together, apply within 30 minutes of mixing to prevent fertilizer from burning seed.
- E. Mulching: Apply uniform cover of straw mulch at a rate of 2 tons per acre.
- F. Erosion Mat: Immediately after mulching, place over mulched areas with slopes steeper than 4:1, in accordance with manufacturer's instructions. Locate strips parallel to slope and completely cover seeded areas.
- G. Tackifier: Apply over mulched areas with 4:1 percent at rate of 5 gallons per 1,000 square feet in accordance with the manufacturers recommended requirements.
- H. Water: Apply with fine spray after mulching to saturate top 4 inches of soil.

3.04 FIELD QUALITY CONTROL

- A. 8 weeks after seeding is complete and on written notice from Contractor, Contracting Officer will, within 15 days of receipt, determine if a satisfactory stand has been established.

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- B. If a satisfactory stand has not been established, Contracting Officer will make another determination after written notice from Contractor following the next growing season.

3.05 PROTECTION

- A. Protect from pedestrian traffic by erecting temporary fence around each newly seeded area.

**END OF SECTION**